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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,674	02/05/2004	Tomoyuki Ohzeki	FS-F03227-01	3597
37398	7590	09/24/2007	EXAMINER	
TAIYO CORPORATION			CHEA, THORL	
401 HOLLAND LANE			ART UNIT	
#407			PAPER NUMBER	
ALEXANDRIA, VA 22314			1752	
			MAIL DATE	DELIVERY MODE
			09/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/771,674

Applicant(s)

OHZEKI ET AL.

Examiner

Thorl Chea

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This first office action is responsive to the communication on June 21, 2007; claims 1-18 are pending in this instant application.

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: there is no antecedent basis for 1-phenyl-3-pyrazolidone) in claim 1 and 9. The term "phenidone" known in the art as "3-pyrazolidone". See Winslow et al (US Patent No. 5,891,615).

The objection to the specification above is maintained since no correction to the specification has been made.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Okada et al (US Patent No. 6,120,983), Tzuzuki (US Patent No. 5,677,121), Siga et al (US Patent No. 4,332,889), Tsukada et al (US 2002/0058220A1), Winslow et al (US Patent No. 5,891,615) and Purol et al (US Patent No. 5,236,816).

Okada et al discloses a photothermographic material substantially as claimed. See the compound having adsorptive to silver halide and reducible group in columns 12-20, compounds 1 to 55; photosensitive silver halide in column 36, lines 3-35 including silver iodide or silver

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iodobromide having silver iodide content of 0.1 to 40 mole %; silver salt of an organic acid including silver behenate in column 37, lines 20-41; preferred polymer such as polyvinyl butyral in column 41, lines 13-30; the silver halide doped with iridium complex in column 36, lines 18-35. Tzusuki (US Patent No. 5,677,121) discloses non-photosensitive silver salt comprising silver salt of behenic acid from 35 to 90 mole % to provide a heat developable material with excellent storability to ordinary aging, excellent image storability, high sensitivity and low Dmax. See the disclosure in the abstract. Tsukada et al discloses a binder for a photothermographic material having glass transition temperature from -20°C to 80°C to provide a photothermographic material with good storability and good coating property. Winslow et al (US Patent No. 5,891,615) discloses a 3-pyrazolidones (phenidones) in column 16, lines 27 as reducing agent for organic silver salt and Purols et al (US patent No. 5,236,816) discloses the "phenidones" as super-additive developing agent for silver ions including the "1-phenyl-3-pyrazolidone). See column 15.

Okada et al disclose a material substantially as claimed. The material taught therein includes the silver salt of an organic acid include silver behenate, silver iodide or silver bromoiodide having iodide content up to 40 mole %, preferred binder such as polyvinyl butyral and the compound having a group adsorptive to silver halide and a reducible group. Okada my not specifically discloses the Tg of the binder and the 1-phenyl-3-pyrazolidone (Phenidones), but the polyvinyl butyral is the preferred binder and used in this present invention such as claimed in claim 8, and the "phenidones" has been known in Winslow et al and Purol as an equivalent functional group (reducing agent) for silver ion disclosed in Okada. The glass transition temperature of 45°C is inherent to the polyvinyl butyral binder. Tsuzki discloses the

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optimized range of silver behenate in the silver salt of an organic acid within the claimed range to provide a photothermographic material with excellent storability to ordinary aging, excellent image storability, high sensitivity and low Dmax. Moreover, Tsukada et al discloses a binder for a photothermographic material having glass transition temperature from -20°C to 80°C to provide a photothermographic material with good storability and good coating property. Therefore, it would have been obvious at the time the invention was made to optimize the amount of silver behenate such as taught in Tsuzuki in combination with the preferred binder included polyvinyl butyral taught in Okada or in Tsukada et al to form a material taught in Okada in combination with the use of a known equivalent reducing for silver ions taught in either Winslow et al or Purols with an expectation of achieving a material with excellent storability to ordinary aging, excellent image storability, high sensitivity, low Dmax and good coating property, and thereby provide a material as claimed.

5. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al (US Patent No. 6,120,983), Tsuzuki (US Patent No. 5,677,121), Tsukada et al (US 2002/0058220A1), Winslow et al (US Patent No. 5,891,615) and Purol et al (US Patent No. 5,236,816). as applied to claims 1-3, 6-8 above, and further in view of Siga et al (US Patent No. 4,332,889).

Siga disclose in column 6, lines 43-68 disclose the relative amount of the silver iodide with respect to silver bromide to satisfy the sensitivity condition and storage condition. It is disclosed that "from the view point of sensitivity of image forming material, the silver halide is desired to contains, beside silver iodide, at least 2 mole %, based on silver halide component, silver bromide and/or silver chloride, although the silver halide may include only silver iodide, i.e. 100

mole % of silver iodide. Furthermore, from viewpoint of stability of the raw image forming material, it is desired that silver halide component contains, besides silver iodide, silver bromide than silver chloride. Therefore, the most preferred silver halide component consists of silver iodide and silver bromide. In this case, silver iodide and silver bromide may be provided in either a mixture thereof or mixed crystals thereof. The molar ratio of silver iodide to silver bromide may be preferably 30/70 to 98/2, more preferably 50/50 to 95/5." It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use silver halide having iodide and bromide taught in Siga to optimize the sensitivity and the storability of the material of Okada et al, and thereby provide a material as claimed.

6. Claims 9-11, 15-18 rejected under 35 U.S.C. 103(a) as obvious over the combination of Okada et al (US Patent No. 6,120,983), Winslow et al (US Patent No. 5,891,615) and Purol et al (US Patent No. 5,236,816).

See Okada et al which discloses compound having adsorptive to silver halide and reducible group in columns 12-20, compounds 1 to 55; photosensitive silver halide in column 36, lines 3-35 including silver iodide or silver iodobromide having silver iodide content of 0.1 to 40 mole %; silver salt of an organic acid including silver behenate in column 37, lines 20-41; preferred polymer such as polyvinyl butyral in column 41, lines 13-30; the silver halide doped a metal complex including with an amount of 1×10^{-9} to 1×10^{-2} mole/mole of silver including iridium complex in column 36, lines 3-35. Okada discloses a photothermographic material substantially as claimed which includes a compound having adsorptive to silver halide and reducible group, a photosensitive silver halide, an organic silver salt, a reducing agent, binder and the iridium, except the 1-phenyl-3-pyrazolidone (Phenidones) which has been known in

Winslow et al and Pural. The 1-phenyl-3-pyrazolidone (Phenidones) have been known in the art has an equivalent function as reducing agent for silver ions taught in Okada et al. Therefore, it would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use a known equivalent reducing agent group as the reducible group taught in Okada et al with an expectation of achieving good silver image, and thereby provide a material as claimed.

7. Claims 12 -14, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al (US Patent No. 6,120,983) as applied to claims 9-13, 15-18 above, and further in view of Kimura (US 6,413,711), Goto et al (US 2003/0194638) and .

Okada et al fails to disclose the compound in claims 12-13 and the spectral sensitizing dye in claim 14, but these compounds has been known in Goto et al (US 2003/0194638), Ohzeki (US 2002/0197570) and Kimura (US 6,413,711). See Goto pages 1-3; Ohzeki in the abstract and spectral sensitizing dye, compound (2a) to (2d) in the abstract. It would have been obvious to the worker of ordinary skill in the art to use the compound taught either in Goto or Ohzeki in the material of Okada et al to increase the sensitivity thereof and the use of the infrared spectral sensitizing dye taught in Kimura to spectrally sensitize the material of Okada in the infrared region, and thereby provide a material as claimed.

Response to Arguments

8. Applicant's arguments filed June 21, 2007 have been fully considered but they are not persuasive since the phenidone group has been known as an equivalent reducible group taught in Okada et al. The worker of ordinary skill in the art at the time the invention was made to use a equivalent reducible group for silver ions known in the art in lieu of the one disclosed in Okada et al with an expectation of producing a silver image.

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The applicants argue that “In Winslow or Purol is an independent molecule. On the contrary, the compound having an adsorptive group to silver halide and a reducing group in the present invention has 3-pyrazolidone group as one partial part of a molecule. A declaration under 37C.F.R.1.132 is provided herewith. The results obtained by the additional experiments set forth in the declaration demonstrate that 3-pyrazolydone contained in the image forming layer resulted in increase of fog without increase of sensitivity, and degradation in image stability. It is clearly understood that 3-pyrazolydone as a molecule has no effect of the compound having an adsorptive group to silver halide and a reducing group in the present invention. Therefore, Winslow or Purol does not disclose or suggest the compound having an adsorptive group to silver halide and a reducing group in the present invention.”

The argument is not persuasive the compound having compound having an adsorptive group to silver halide and a reducing group is taught in Okada et al. Okada et al may not list the phenidone as part of the compound, but discloses the group having structure equivalent to the phenidone as reducing agent for silver ion. The worker of ordinary skill in the art at the time the invention was made to substitute taught in Okada et al with a known groups known as reducing agent to silver ion taught in either Winslow et al or Purol to form an equivalent compound taught in Okada et al, and incorporate thereof in a photothermographic material with an expectation of achieving a material having high sensitivity in red to infrared region and experiences a minimal change of photographic properties under different developing condition.

The applicants rely on the Declaration under 37 CFR 1.132 submitted on June 21, 2007 to obviate the rejection under 35 USC 103(a) set forth in the above paragraph. It was argued that :
The results obtained by the additional experiments set forth in the declaration demonstrate that 3-

pyrazolydone contained in the image forming layer resulted in increase of fog without increase of sensitivity, and degradation in image stability. It is clearly understood that 3-pyrazolydone as a molecule has no effect of the compound having an adsorptive group to silver halide and a reducing group in the present invention.

The Declaration fails to overcome the prima facie case of obviousness rejection. The issue in this case is whether the incorporation of the 3-pyrazolidone reducing agent in lieu of the reducing group taught Okada et al would achieve a photothermographic material a property that would have been found unexpected to the worker of ordinary skill in the art at the time the invention was made. The 1-phenyl-3-pyrazolidone used in the Declaration contains no absorptive group, and is irrelevant to the compound taught in Okada et al.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

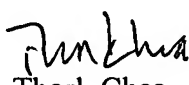
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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tch 
2007-02-14


Thorl Chea
Primary Examiner
Art Unit 1752